CLAIMS

1. An organic electroluminescence display panel comprising:

a plurality of organic electroluminescence devices, each of which comprises first and second display electrodes and an organic functional layer sandwiched and stacked between the first and second display electrodes, the organic functional layer including at least a light emitting layer comprising a single organic compound layer; and

a substrate supporting the plurality of organic electroluminescence devices,

wherein at least one of the first and second display electrodes comprises a common layer formed in common with the plurality of organic electroluminescence devices and the common layer comprises a low resistance region corresponding to the organic electroluminescence device and a high resistance region connected to the low resistance region and having a higher resistivity than the low resistance region.

2. The organic electroluminescence display panel according to claim 1, wherein the low resistance region has a sheet resistance of 1×10^6 $\Omega/\square$ or less.

3. The organic electroluminescence display panel according to claim 1, wherein the high resistance region has a sheet resistance of 1×10^6 $\Omega/\square$ or more.

4. The organic electroluminescence display panel according to claim 1, wherein the low resistance region and the high resistance region have a main ingredient common to each other.

5. The organic electroluminescence display panel according to claim 1, wherein the difference in sheet resistance between the low resistance region and the high resistance region is equal to or greater than two orders of magnitude.

6. The organic electroluminescence display panel according to claim 1, wherein the high resistance region contains at least one of oxygen and nitrogen as an added ingredient, and has a higher content of at least one of oxygen and nitrogen than the low resistance region.

7. The organic electroluminescence display panel according to claim 1, wherein the high resistance region contains a donor or an acceptor and has a lower content of the donor or acceptor than the low resistance region.

8. The organic electroluminescence display panel according to claim 1, wherein the high resistance region has an amorphous or polycrystalline structure, and contains a larger amount of presence of the grain boundaries in the crystalline structure than the low resistance region.

9. A method of fabricating an organic electroluminescence display panel, the organic electroluminescence display panel comprising: a plurality of organic electroluminescence devices, each of which comprises first and second display electrodes and an organic functional layer sandwiched and stacked between the first and second display electrodes, the organic functional layer including at least a light emitting layer comprising a single organic compound layer; and a substrate supporting the plurality of organic electroluminescence devices, the method comprising

the steps of:

forming a common layer having conductivity; and

performing a resistance increasing process in which a high resistance region having a resistivity higher than the resistivity of the common layer is partially formed to define a low resistance region having a lower resistivity than the high resistance region, and the low resistance region is formed as at least one of the first and second display electrodes.

10. The fabricating method according to claim 9, wherein the resistance increasing process step comprises a process for partially oxidizing or nitriding the common layer by placing the substrate in an oxygen or nitrogen atmosphere.

11. The fabricating method according to claim 9, wherein the common layer contains a donor or an acceptor, and the resistance increasing process step comprises a process for partially undoping the donor or acceptor.

12. The fabricating method according to claim 9, wherein the common layer has an amorphous or polycrystalline structure, and the resistance increasing process step comprises a step of partially annealing the common layer, in which a process for increasing an amount of presence of the grain boundaries in the crystalline structure in comparison with the low resistance region is performed.

13. A method of fabricating an organic electroluminescence display panel, the organic electroluminescence display panel comprising: a plurality of organic electroluminescence devices, each of which comprises first and second display electrodes and

an organic functional layer sandwiched and stacked between the first and second display electrodes, the organic functional layer including at least a light emitting layer comprising a single organic compound layer; and a substrate supporting the plurality of organic electroluminescence devices, the method comprising the steps of:

forming a common layer having a high resistance; and

performing a resistance decreasing process in which a low resistance region having a resistivity lower than the resistivity of the common layer is partially formed to define a high resistance region having a higher resistivity than the low resistance region, and the low resistance region is formed as at least one of the first and second display electrodes.

14. The fabricating method according to claim 13, wherein the resistance decreasing process step comprises a process for partially reducing the common layer by placing the substrate in a reduction atmosphere.

15. The fabricating method according to claim 13, wherein the resistance decreasing process step comprises a process for partially doping the donor or acceptor.

16. The fabricating method according to claim 13, wherein the common layer has an amorphous or polycrystalline structure, and the resistance decreasing process step comprises a step of partially annealing the common layer, in which a process for decreasing an amount of presence of the grain boundaries in the crystalline structure in comparison with the high resistance region is performed.

17. A method of fabricating an organic electroluminescence display panel, the organic electroluminescence display panel comprising: a plurality of organic electroluminescence devices, each of which comprises first and second display electrodes and an organic functional layer sandwiched and stacked between the first and second display electrodes, the organic functional layer including at least a light emitting layer comprising a single organic compound layer; and a substrate supporting the plurality of organic electroluminescence devices, the method comprising the steps of:

forming a common layer having conductivity;

performing a resistance increasing process in which a high resistance region having a resistivity higher than the resistivity of the common layer is partially formed to define a low resistance region having a lower resistivity than the high resistance region; and

performing a resistance decreasing process in which a second low resistance region having a resistivity lower than the resistivity of the common layer is partially formed in the low resistance region, and the second low resistance region is formed as at least one of the first and second display electrodes.

18. The fabricating method according to claim 17, wherein the resistance increasing process step comprises a process for partially oxidizing or nitriding the common layer by placing the substrate in an oxygen or nitrogen atmosphere.

19. The fabricating method according to claim 17, wherein the common layer contains a donor or an acceptor, and the resistance

increasing process step comprises a process for partially undoping the donor or acceptor.

20. The fabricating method according to claim 17, wherein the common layer has an amorphous or polycrystalline structure, and the resistance increasing process step comprises a step of partially annealing the common layer in which a process for increasing an amount of presence of the grain boundaries in the crystalline structure in comparison with the low resistance region is performed.

21. The fabricating method according to claim 17, wherein the resistance decreasing process step comprises a process for partially reducing the common layer by placing the substrate in a reduction atmosphere.

22. The fabricating method according to claim 17, wherein the resistance decreasing process step comprises a process for partially doping the donor or acceptor.

23. The fabricating method according to claim 17, wherein the common layer has an amorphous or polycrystalline structure, and the resistance decreasing process step comprises a step of partially annealing the low resistance region in which a process for decreasing an amount of presence of the grain boundaries in the crystalline structure in comparison with the low resistance region is performed.